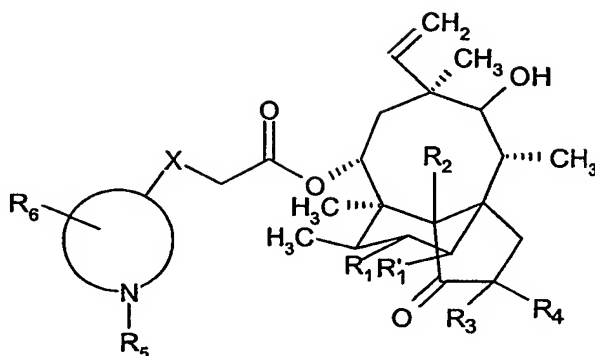


# Patent claims

1. A compound of formula



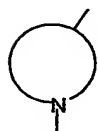
- 5 wherein

$R_1$  and  $R_1'$  are hydrogen or deuterium,

$R_2$ ,  $R_3$  and  $R_4$  are hydrogen or deuterium,

$R_5$  is the residue of an amino acid,

$X$  is S or N-ALK,

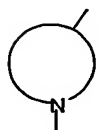


- 10 is piperidinyl or tetrahydropyridinyl,

ALK is  $(C_{1-4})$ alkyl, and

$R_6$  is hydrogen, hydroxy or  $(C_{2-12})$ acyloxy,

with the proviso that if

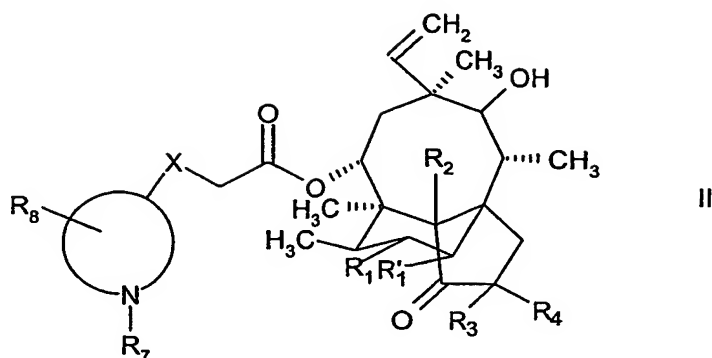


is piperidinyl and  $X$  is S, then  $R_6$  is other than hydrogen.

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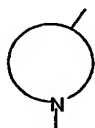
2. A compound according to claim 1 which is selected from the group consisting of  
14-O-[4-hydroxy-N-valyl-piperidin-3-yl]-sulfanylacetylmutilin,  
14-O-[3-hydroxy-N-valyl-piperidin-4-yl]-sulfanylacetylmutilin,  
14-O-[3-hydroxy-N-histidinyl-piperidin-4-yl]-sulfanylacetylmutilin,  
20 14-O-[3-hydroxy-N-valyl-piperidin-4-yl]-methylaminoacetylmutilin,  
14-O-[4-hydroxy-N-valyl-piperidin-3-yl]-methylaminoacetylmutilin,  
14-O-[N-valyl]-1,2,3,6-tetrahydropyridin-3-yl]-sulfanylacetylmutilin, and  
14-O-[N-valyl]-1,4,5,6-tetrahydropyridin-4-yl]-sulfanylacetylmutilin.

## 3. A compound of formula



wherein

- 5  $R_1$  and  $R_{1'}$  are hydrogen or deuterium,  
 $R_2$ ,  $R_3$  and  $R_4$  are hydrogen or deuterium,  
 $R_7$  is a protecting group or the residue of an amino acid wherein the amino group is protected,  
 $X$  is S or N-ALK,

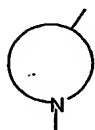


- 10 is piperidinyl or tetrahydropyridinyl,

ALK is  $(C_{1-4})$ alkyl, and

$R_8$  is hydrogen, hydroxy or  $(C_{2-12})$ acyloxy,

with the proviso that if



is piperidinyl and  $X$  is S, then  $R_8$  is other than hydrogen.

- 15 4. A compound according to claim 3 selected from the group consisting of  
 14-O-[N-BOC-4-hydroxy-piperidin-3-yl]-sulfanylacetylmutilin,  
 14-O-[N-BOC-3-hydroxy-piperidin-4-yl]-sulfanylacetylmutilin,  
 14-O-[4-hydroxy-N-BOC-piperidin-3-yl]-methylaninoacetylmutilin,  
 20 14-O-[3-hydroxy-N-BOC-piperidin-4-yl]-methylaninoacetylmutilin,  
 14-O-[N-BOC-1,4,5,6-tetrahydropyridin-4-yl]-sulfanylacetylmutilin,  
 14-O-[4-hydroxy-N-(N-BOC-valyl)-piperidin-3-yl]-sulfanylacetylmutilin,  
 14-O-[3-hydroxy-N-(N-BOC-valyl)-piperidin-4-yl]-sulfanylacetylmutilin,

14-O-[4-acetoxy-N-(N-BOC-valyl)-piperidin-3-yl]-sulfanylacetylmutilin,  
14-O-[3-acetoxy-N-(N-BOC-valyl)-piperidin-4-yl]-sulfanylacetylmutilin,  
14-O-[3-hydroxy-N-(N-BOC-histidiny)-piperidin-4-yl]-sulfanylacetylmutilin,  
14-O-[3-hydroxy-N-(N-BOC)-valyl-piperidin-4-yl]-methy-laminoacetylmutilin,  
5 14-O-[4-hydroxy-N-(N-BOC)-valyl-piperidin-3-yl]-methy-laminoacetylmutilin,  
14-O-[N-(N-BOC-valyl)-1,4,5,6-tetrahydropyridin-4-yl]-sulfanylacetylmutilin,  
14-O-[N-(N-BOC-valyl)-1,2,3,6-tetrahydropyridin-3-yl]-sulfanylacetylmutilin.

5. A compound of any one of claims 1 to 4 in the form of a salt.

6. A compound of any one of claims 1 to 5 for use as a pharmaceutical.

7. A pharmaceutical composition comprising a compound of any one of claims 1 to 5 in association with at least one pharmaceutical excipient.

8. A pharmaceutical composition according to claim 7 further comprising another pharmaceutically active agent.

9. A compound of any one of claims 1 to 5 or a pharmaceutical composition of claim 7 or 8 for use in the preparation of a medicament for the treatment of microbial diseases.

10. A method of treatment of microbial diseases comprising administering to a subject in need of such treatment an effective amount of a compound of any one of claims 1 to 5 or of a pharmaceutical composition of any one of claims 7 or 8.